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ART. 1.—*Remarks on the Cultivation and Properties of Hardy Herbaceous Plants in the Natural Order Ranunculaceæ.* Communicated by Mr JOSEPH BRECK.

"ACRIDITY, causticity and poison are the general characters of this suspicious order, which, however, contains species in which these qualities are so little developed as to be innoxious." Dangerous as many of the plants in this order are, in it are to be found some of the most interesting to the gardener and florist in the whole catalogue of plants. The gaudy Pæony, with its forty or fifty species and varieties, the glittering Ranunculus, one species of which boasts of varieties innumerable, the Anemone, with its hundreds of named sorts, which, with the Ranunculus have almost exhausted the wits of the florist to find them names, with many other species in this order, are highly esteemed border flowers.

The order is divided into five tribes, viz: 1. Clematideæ. 2. Anemoneæ. 3. Ranunculeæ, 4. Helleboreæ. 5. Pæoneæ. All the plants in this order about to be described, belong to the artificial Class Polyandria, (many stamens inserted on the receptacle.)

1. TRIBE CLEMATIDEÆ.

Genus CLEMATIS. *Character*, Petals 3, 4, 5 or 6; seeds compressed; styles permanent, becoming long plumose tails.

Clematis. "From a Greek word signifying a tendril; the climbing habit of the plant is well known. The species are mostly climbing shrubs of rapid growth, free flowers, very ornamental, and some are highly odoriferous."

One of the most luxuriant species is *C. Virginicum,* (Virgin's Bower) found growing profusely upon the banks of many of our rivers and brooks and other wet places, decorating the shrubbery to which it attaches itself by its petioles, which are given off at intervals in pairs, twining round objects of support, and serving the purpose of tendrils. Each of these opposite petioles bears three heart shaped leaves variously toothed and lobed.

Peduncles axillary, bearing cymes of white flowers, which are diœcious, the fertile flowers bearing imperfect anthers.

The most remarkable appearance of this plant, is, when in fruit; the long feathery tails of seeds appearing like tufts of wool. An arbor, thickly covered with this vine, would make a singular appearance near the close of summer and the autumnal months. The flowers are handsome when in perfection in the beginning of August. It will grow twenty or more feet in a season, most of which perishes, leaving only a small part of the plant shrubby.

C. viticella is a much admired species with blue flowers, which are produced from June to September, on long peduncles from the axil of the leaves. Leaves entire or ternate, decompound, the terminal leaf frequently ending in a tendril by which it sustains itself, being a climber of delicate habits, most of the plants dying annually near to the ground. Flowers with four petals, rather bell shaped and nodding; a variety has double flowers.

C. fammula, is a highly prized species, not much cultivated among us — a fine climber, producing white fragrant flowers. Leaves pinnate; segments smooth entire, or three lobed, round, oval, oblong or linear, rather acute. Of this species, there are four or five varieties.

C. florida is another fine scandent plant suitable for arbors, growing from ten to twenty feet in a season, with white flowers, having a variety with double ones. Besides these enumerated, there are as many as twenty species of *Clematis* which are considered ornamental.

"Any common garden soil will suit them, and they are readily increased by layers: or young cuttings placed under a common hand glass, will root freely. Seeds are often ripened in abundance: they are best sown in pans, or wide-mouthed pots, and placed in a shady situation, where they will remain some time before they come up; they may then be potted off, or planted out in the ground, where they will require to be shaded a little if the weather be warm, till they have taken fresh root.

There are a few species in the genus with different habits, being

erect in growth. A fine species is *Clematis erecta*, producing a profusion of fine white panicles in July: from two to three feet high: Leaves pinnate, leaflets stalked, ovate lanceolate, segments entire.

Clematis integrifolia. Entire leaved. A handsome upright plant two feet high, producing nodding, bell-shaped, blue flowers most of the season. Leaves entire, ovate lanceolate, smooth. A variety, *angustifolia*, has narrow leaves. *C. ochroleuca* has light yellow flowers.

Tribe 2. Anemoneæ.

In this section of the natural order, the most prominent genus is Anemone and type of the tribe, a well known florist's flower, of which there are hundreds of varieties.

Polyandria polygynia. Generic charucter.—Petals, five to fifteen; seeds numerous, naked. The corol is considered a calyx by some.

Anemone. "From Greek, signifying wind, because the flower grows in elevated places, much exposed to wind."

Two species are cultivated under the name of Anemone; the A. coronaria or poppy, anemone a native of Levant, and A. hortensi, the star or broad-leaved anemone, a native of Italy, both of which have been cultivated in England for about two hundred and fifty years. From the catalogue of Henry Van Eden & Co. Florists, at Harlem in Holland, we find one hundred and fifty varieties, enumerated with their names, arranged as follows:

Red or Blood color — Rosy and white flamed with purple — Sky Blue, Purple or Ash color — Rosy with Green and White — White and Rosy color — and Agathe or Agate colored. One hundred of the choicest varieties are offered for fifty francs.

Very little attention has been paid to the cultivation of this most beautiful flower, from the fact we suppose, that it will not stand our winters unless planted in a frame. Thus protected, it has succeeded admirably with some of our florists, repaying abundantly the extra trouble that is necessary to bestow upon it. If the roots are kept from dampness, they will do very well to plant out in April and produce very good flowers, if good roots have been procured. Many roots are annually sold at auction of inferior quality, and frequently in a mouldy state, which, if they vegetate, poorly repay the expense of cultivation, by which a prejudice has been given not much in favor of the flower.

Those who have seen a bed of Anemones of every color and hue

in full perfection, will no longer think lightly of the flower, and no doubt would make an effort themselves to cultivate it.

"The roots of Anemones are solid flattened masses like those of ginger, and like them are multiplied by division. A root which has remained in the soil two or three years, if it has no room to extend it, attains a great breadth; but it is still only one root; and hence the mode of sale by weight, and the roots are divided when planted."

Criterion of a fine double Anemone. "The stem should be strong, elastic, and erect, not less than nine inches high. The blossom, or corolla, should be at least two inches and a half in diameter, consisting of an exterior void of large substantial well rounded petals or guard leaves, at first horizontally extended, and then turning a little upwards, so as to form a broad shallow cup, the interior part of which should contain a great number of long small petals, imbricating each other, and rather reverting from the centre of the blossom; there are a great number of small slender stamens, intermixed with these petals, but they are short and not easily discernible. The color should be clear and distinct when diversified in the same flower, or brilliant and striking if it consists only of one color, as blue, crimson, or scarlet, &c., in which case the bottom of the broad exterior petals is generally white; but the beauty and contrast is considerably increased when both the exterior and interior petals are regularly marked with alternate blue and white, or pink and white, &c. stripes, which in the broad petals should not extend quite to the margin."

Propagation. By dividing the roots for fine sorts, and by seed for new varieties.

Soil and situations. "According to Maddock, a fresh, strong, rich, loamy soil is preferable to all others. Hogg recommends fresh loam, with a considerable portion of rotten horse or cow dung. The Rev. W. Williamson uses a stiff clayey loam with a fourth part of rotten dung. The situation should be open, but not exposed to violent winds or currents of air. The bed should be dug from eighteen inches to two feet deep, and not raised more than four inches above the level of the walks, to preserve the moisture effectually: at about five inches below the surface should be placed a stratum of two year old cow dung, mixed with earth, six or eight inches thick; but the earth above this stratum, where the roots are to be planted, should be perfectly free from dung, which would prove injurious, rather than of benefit, if too near them. The fibres will draw sufficient nourishment from it at the depth above mentioned: but if the dung were placed deeper,

it would not receive so much advantage from the action of the air, which is an object of consequence."

Planting. According to English writers, this may be done either before or after winter. But with us, it must be deferred until spring, unless planted in a frame, that the roots may be protected from wet and cold, and air given in mild weather. The bloom will be stronger when planted in autumn, than in the spring; they should be planted as early as the ground can be worked. The roots should be planted in rows six inches apart, and the same distance from each other in the rows. About two inches is the proper depth to plant them. A little care is necessary in planting to place the roots the right side up. By close examination, the eyes from which the stems and flowers proceed can be distinguished, which of course must be placed uppermost. When in bloom, the beauty will be prolonged by shading the bed from the mid-day sun by an awning, which is always done when perfection is aimed at. Watering is necessary in dry weather.

Taking up the roots. It is a good plan to protect the bed from heavy rains after the bloom is over, that the roots may be regularly and gradually matured: if they have much wet, vegetation is prolonged, and it is rather difficult to ascertain the critical period for taking up; but if there is not too much moisture, the foliage will become brown and dry and point out the true time, which will happen about a month after the bloom. When properly dried and preserved from moisture, the roots may be kept two or three years out of the ground without much injury.

Anemone pulsatilla. Pasque flower. A hardy border vernal plant of some beauty. Its leaves are pinnate with multifid segments, the lobes linear: the flowers violet, somewhat nodding, with six spreading sepals — from six to ten inches high. April and May.

Anemone thalictroides, is a beautiful indigenous species, found in woods and pastures, with tuberous roots, and radical leaves which are compound, three times ternate. Flowers in a sort of umbel of several, accompanied by a number of simple heart shaped, three lobed leaves. This fine species is much improved by cultivation, producing instead of single stems, numerous ones from the same root, covered with its fine white flowers in April and May.

Anemone nemorosa is distinguished from the last by its solitary nodding, white, externally red or purplish flower. It grows in spreading clusters, with low stems, bearing three leaves connected together

at the base. It is one of the earliest flowers, found in abundance in the shade of thickets and woods.

Genus HEPATICA. This genus contains some beautiful little dwarf plants, highly prized on account of their abundant blossoms and great variety of colors and shades. "Hepatica is from Greek, relating to the liver, the three lobes of the leaves have been compared to the three lobes of the liver."

Character of the genus. Calyx three leaved, a little distance below the corol, entire; petal six to nine; seeds without tails.

Hepatica triloba. Liver-wort. "This delicate little flower is one of the earliest visitors in spring, flowering in sunny spots before the snow has left the ground. The flowers appear before the leaves, on hairy scapes. Calyx of three ovate, obtuse, hairy leaflets, situated on the scape at a distance below the petals. Petals oblong, obtuse, purple, sometimes white. Seeds numerous, sessile, ovate, acute, hairy, supported by the persistent calyx. The leaves are heart shaped at base, and divided into three, rarely five, entire lobes." It is very much improved by cultivation. Some of the English varieties are splendid, especially the double red and double blue, and the white with red anthers. A patch of either of these, or our own indigenous species, which differs very little from the European, makes a very lively appearance, but are quickly spoiled by the sun unless shaded. The leaves of the Liver-wort have been used in cases of pulmonary complaints. A few years since it was somewhat celebrated among "herb doctors." We believe its reputation is somewhat on the decline. There is one thing that recommends itself in the use of it: if it does no good, there is no great danger of doing harm. There have been some well authenticated instances of its efficacy.

Genus ADONIS. *Polyandria polygynia.* "*Adonis* is said to be the plant that sprang from the blood of Adonis when wounded by the boar. Handsome border flowers, especially *A. vernalis* and *autumnalis*, and of the easiest culture in any garden soil."

Character of the genus. Sepals five, appressed. Petals, five to fifteen, with a naked claw. Grains many, one seeded, spiked, ovate, pointed with the persistent hardened style.

Adonis vernalis is the only perennial species, producing its brilliant yellow flowers with twelve or fifteen oblong, somewhat toothed petals the last of April. Not common in our gardens, but richly deserves a place in every collection.

Genus THALICTRUM. *Polyandria polygynia.* "Thalictrum is

said to be derived from Greek, to grow green, from the bright color of the young shoots. The species are vigorous growing plants with ramose roots and smooth, finely divided leaves; they grow in any soil and situation, and *A. tuberosum, cornuti,* and *aquilegifolium* are reckoned handsome ornaments in a border or shrubbery.

Character of the genus. Calyx none; petals four or five; seeds without tails.

We have in our collection *T. cornuti,* which makes a handsome appearance in the back of the border, now in bloom (July 12,) about four feet high. Flowers in corymbs, pale yellow; the stamens or anthers forming the most conspicuous part of the flower. Leaves decompound; segments bluntly three-lobed.

T. corynellum, is indigenous, a common, tall meadow plant with white flowers; its numerous filaments bearing oblong yellow anthers.

3. Tribe Ranunculeæ.

The only genus in this tribe containing handsome border flowers is that of Ranunculus, in which is one remarkable species, R. Asiaticus, famous for producing innumerable varieties of florists' flowers, whose roots in a dry state, consist of little tufts of cylindric tubers, forming one important item of the annual imports of roots and bulbs from Holland.

"*Ranunculus* is said to be so called from *rana,* a frog, because the species inhabit humid places frequented by that reptile."

Character of the genus. Calyx five leaved; petals five with a nectariferous pore, and small scales at their base on the inside; seeds without tails, naked, numerous. *Polyandria polygynia.* We have many species of this genus indigenous, well known by the name of butter-cups, the flowers of the different species having a close resemblance to each other, being of a brilliant varnished yellow, possessing in some species, acridity in a high degree. R. sceleratus when bruised and applied to the skin produces blisters. All these species are weeds naturally. There are some improved varieties with double flowers, truly beautiful, as *R. repens flore plena,* and *R. acris flore pleno.* The only difficulty with them is to keep them within due bounds, as they have a great propensity to extend themselves farther than is desirable.

R. aconitifolius is a handsome plant, and thus described by an American writer thirty years ago. "The double flowering variety of the *Ranunculus aconitifolius,* Aconiti-leaved Crowfoot, or *Fair Maids of France,* is greatly esteemed for the delicate beauty of its numer-

ous flowers. It is perfectly hardy, and grows generally from a foot and a half to two feet high, the stalks branching out at top into several divisions, at each of which there is one leaf of the same shape of the root leaves, divided into five lanceolate lobes each: the four sided lobes are upon foot-stalks coming from the side of the principal stems, and the middle one terminates it; they are deeply serrate, and have several longitudinal veins. The flowers are pure white, very double, each standing upon a single foot-stalk. The root is perennial and composed of many strong fleshy fibres, formed like that of *Ranunculus Asiaticus* or garden ranunculus, and increasing in the same manner. It is a native of the Alps of Europe, and is very scarce at present in America. This beautiful plant flowers generally in the latter end of May and June, and may be propagated by taking up the roots now (September) or at any time after the stems decay, separating the offsets, taking care, at the same time, to preserve the crown of each unhurt, and planting them in any good garden earth. Their thick fibres are to be spread around, and the upper part of each root is to be covered about two inches deep, if planted in beds and borders; but if in pots, one inch will be sufficient; raise the earth in the centre of the pot, place the root thereon, spreading the fibres around and downward, then fill in the earth and cover as above. The pots will require some protection and but very little water during winter, for no root or plant will bear as much frost when in pots, as if planted in open ground. This plant looks beautifully in rooms and windows, when in flower, as well as in borders and beds." We beleive this plant is still scarce; we saw it in bloom at the Cambridge Botanic Garden this spring, under the care of Mr Wm. E. Carter, the superintendent.

Ranunculus Asiaticus. "The Ranunculus, from a fasciculus of small tubers, sends up several bipartite leaves, and an erect branched stem with a terminating flower variously colored. It is a native of the Levant, and was cultivated by Gerrard in 1596. Though rather a tender plant, innumerable and highly beautiful double-flowered varieties have been raised from seed, chiefly by the English florists, from the middle to the latter end of the last century." The varieties are more numerous, it is said, than any other flower. More than seven hundred varieties are named in the catalogue of Henry Van Eden & Co., Harlem, Holland, and about five hundred varieties in the catalogue of Henry Groom, florist, near London. In the last, the highest prized one is Groom's Lady Grey, offered for the moderate sum of

about nine dollars our money; and one hundred varieties, two roots of each for five pounds sterling, or a little more than twentytwo dollars. Two hundred of the finest varieties are prized at one hundred francs in the other catalogue.

They are arranged in the following order, viz:—White, white spotted, mottled or edged. — Red and white striped. — Red and yellow striped. — Dark and dark purple. — Light purple. — Gray. — Crimson. — Red. — Rosy. — Yellow, yellow spotted, mottled or edged. — Orange. — Olive.

The Ranunculus is more tender than the Anemone, and may be treated in the same manner, but not planting more than one inch and a half deep. The surface of the bed should be raked perfectly even and flat, and the roots planted in rows, at the distance of about five inches from each other. It is better to plant in shallow trenches, made nearly two inches deep, than to make holes for the reception of the roots; there should be a little coarse sand sprinkled into the trench and the roots should be placed with their claws downwards, from three to four inches asunder, according to their size; when the trench has received its roots, it should be carefully filled up level with the same earth that was taken out, so as to cover the roots exactly one inch and a half deep, which is the only true depth to procure a good bloom: it is pointed out by nature in a singular manner; for when these roots have been planted too shallow or too deep, in either case, a second root is formed at the proper depth, by which the plant is weakened to such a degree that it seldom survives a repetition of it.

It is necessary to water freely in case of dry weather, but not without. Shading, too, is indispensable, especially to the dark colors, which are soon injured by a bright sun. The roots should be taken up as soon as the foliage begins to decay, and dried gradually, and then put away in paper bags until the time of planting. Like the anemone, the roots of the ranunculus will keep out of the ground for years.

Criterion of a fine double Ranunculus. The stem should be strong, straight and from eight to twelve inches high, supporting a large well formed blossom or corolla at least two inches in diameter, consisting of numerous petals, the largest at the outside, and gradually diminishing in size as they approach the centre of the flower, which should be well filled up with them. The blossom should be of a hemispherical form; its component petals should be imbricated in such a manner as neither to be too close and compact, nor too widely separated;

but have rather more of a perpendicular than horizontal direction, to display their colors with better effect. The petals should be broad, and have perfectly entire well rounded edges: their colors should be dark, clear, rich, or brilliant, either consisting of one color throughout, or be otherwise variously diversified, on an ash, white, sulphur, or fine colored ground, or regularly striped, spotted or mottled in an elegant manner." Mr Maddock observes, in no instance does the seed of the ranunculus produce two flowers alike, or the same as the original. This beautiful flower has as yet received but little attention among us. Those who have made the attempt and given it proper treatment have been well rewarded for their pains, and we hope it will soon be more generally cultivated.

Tribe 4. Helleboreæ.

In this section of Ranuculaceæ will be found the genus *Delphinium*, noticed in a former number, (page 54,) and the genera *Aconitum*, *Aquilegia* and *Trollius*, each of which contains more or less species of handsome herbaceous plants. The genus "*Helleborus*, famous in classical history for its drastic powers, and the *Nigella*, celebrated in ancient housewifery for its aromatic seeds, which were used for pepper, before that article was discovered," and *Coptis trifolia*, or Gold thread, a well known indigenous plant found in woods, producing a pure and powerful bitter, devoid of astringency, and a popular remedy with us for the sore mouths of children.

Genus Aconitum. Polyandria trygynia.— *Character of the genus.* Calyx none. Petals five, the upper vaulted; nectaries two hooded, stalked, recurved, siliques three to five.

Aconitum. So called from growing about Acona, a town near Bithynia. The species are robust free-flowering plants of some beauty and consequence. The stems rise from two to six feet in height, upright, strong, furnished with many digitate or palmate leaves, and terminated by panicles of loose spikes of blue or yellow flowers."

Aconitum napellus, "from napus, a turnip, its grumous roots resembling little turnips," is a well known inhabitant of the garden known by the name of Monk's hood; it should be as well known as a most powerful poison. The following account of it, will, undoubtedly, make those who cultivate it extremely cautious as to the use they make of it. "Linnæus says that it is fatal to kine and goats, especially when they come fresh to it, and are not acquainted with the plant; but that it does no injury to horses, when they eat it only dry. He also relates (from the Stockholm acts) that an ignorant surgeon

prescribed the leaves, and on the patient refusing to take them, he took them himself and died. The ancients who were acquainted with chemical poisons, regarded the Aconite as the most violent of all poisons. Some persons, only taking the effluvia of the herb in full flower by the nostrils, have been seized with swooning fits, and have lost their sight for two or three days. But the root is unquestionably the most powerful part of the plant. Matthiolus relates that a criminal was put to death by taking one drachm of it. Dodonæus gives us an instance, recent in his time, of five persons at Antwerp, who ate the root by mistake, and all died. Dr Turner also mentions, that some Frenchmen at the same place, eating the shoots of this plant for those of master-wort, all died in the course of two days, except two players, who quickly evacuated all they had taken by vomit. We have an account in the Philosophical Transactions, of a man who was poisoned in the year 1732, by eating some of this plant in a salad, instead of celery. Dr Willis, in his work, De Anima Brutorum, gives an instance of a man who died in a few hours, by eating the tender leaves of this plant, also in a salad. He was seized with all the symptoms of mania. The Aconite, thus invested with terrors, has, however, been so far subdued, as to become a powerful remedy in some of the most troublesome disorders incident to the human frame. Baron Stoerck led the way by administering it in violent pain in the side and joints, in glandulous scirrhi, tumors, ulcerous tubercles of the breast, &c. to the quantity of from ten to twenty grains in a dose, of an extract, the method of making which he describes. All the species are poisonous in a high degree."

The species are very numerous, most of which are beautiful, with blue flowers, and a few with yellow or white. Some of the finest are *A. japonicum*, *album*, *versicolor*, *variegatum*, *lycocontum*, and *speciosum*.

Genus AQUILEGIA. *Polyandria pentagynia. Character.*—Calyx none; petals five; nectaries five, horned between the petals; capsules five distinct.

"*Aquilegia.* From aquila, an eagle: the inverted spurs of the flower have been likened to the talons of a bird of prey. *A. vulgaris* is an old inhabitant of the flower garden: the whole plant has been recommended to be used medicinally, but it belongs to a suspicious order, and Linnæus affirms, that children have lost their lives by it. The species are smooth leaved, handsome flowering plants. *A. alpina* is the handsomest species."

A. vulgaris has varieties of every shade of blue and purple, white, variegated and flesh color, with single, semidouble and double flowers. Propagated from seed, or from divisions of the root.

A. canadensis, common in rocky situations, flowering early in May, has pendulous scarlet flowers, with styles and stamens exserted; leaves biternated, or twice three parted, incisely or deeply toothed on the extremity. We think this the most elegant species, being much improved by cultivation, producing much larger roots, with numerous stems and flowers. It forms "one of the most elegant vernal ornaments of the season." We formerly had a variety with pale yellow flowers, but have lost it, and think it is not to be found in any collection.

A. sibirica. Siberian columbine. This flowered with us for the first time the present season. It resembles *A. vulgaris*, except that the flowers instead of being pendulous, stand erect, and are of a beautiful indigo blue.

A. formosa is a beautiful new species from Kamtschatka, with red and orange flowers, not yet introduced into our country. About fifteen species are enumerated in Loudon's Hortus Britannicus, all ornamental and hardy, being mostly natives of Siberia and alpine regions.

Genus TROLLIUS. *Polyandria polygynia. Character.*—Sepals colored, five, ten or fifteen, deciduous, petaloid; capsules many, subcylindrical, many seeded.

"*Trollius.* A name given to this plant by Conrad Gesner. It is derived from *trol* or *trollen*, an old German word, signifying something round, in allusion to the form of the flowers. The species are showy flowers for the general border, and of the easiest possible culture."

T. europæus has yellow flowers and grows two feet high, flowering in May and June. *T. asiaticus* is another species with dark orange flowers, in flower the same time, and one foot high. *T. americanus* is a dwarf indigenous species, also with yellow flowers somewhat like the common ranunculus, and not much superior in beauty.

Genus HELLEBORUS. *Polyandria polygynia. Character.*—Sepals five, persistent, roundish, obtuse, large, usually green. Petals eight to ten, tubular, nectariferous. Stigmas orbicular. Capsules coriaceous.

Helleborus. "From Greek words signifying *to cause death*, and *food.* The dangerous qualities of Hellebore are well known. Leathery leaved plants, most of which are evergreen and flower in winter

and early in spring. *H. niger* and *fœtidus* have long been in use in popular medicine, especially the latter, as a vermifuge and cathartic. They are both admitted in the London Materia Medica, but being violent poisons, require caution in their application. *H. fœtidus*, from its deep green and finely divided leaves, forms a most ornamental evergreen bush for the shrubbery."

We have a plant growing in abundance in our meadows and swamps with large, oval, acuminate, pubescent, strongly plaited and nerved leaves, a foot long, and stems from three to five feet high, with numerous greenish flowers in compound racemes, known by the name of *Hellebore*, but it is improperly so called. The true name is *Veratrum viride;* "the root of this plant, when taken internally, produces violent effects, and is dangerous in considerable quantities." "The best antidote for this poison when taken is a strong infusion of nut-galls." The European species are equally dangerous.

5. Tribe Pæoneæ.

Genus *Pæonia*. *Polyandria di-pentagynia*. *Character.*—Calyx five leaved; style none; capsules many seeded like a pod.

"*Pæonia.* The physician Pæon was the first to use this in medicine. The Greek legend adds, that he used it to cure Pluto of a wound inflicted by Hercules."

This interesting genus contains many magnificent flowering plants, embracing, according to Loudon's Hortus Britannicus, fifty distinct species and varieties, all of which are desirable for the borders and perfectly hardy, standing our winter without the least protection; they flower stronger, however, with a little. Most of the genus is herbaceous: one species, *P. moutan*, Chinese tree, is shrubby. This species and two varieties, *papaveraceæ* and *Banksiæ* were introduced from China in 1789; since then a number of varieties have been raised from seeds of which some have already reached this country. We saw a plant at Marshall P. Wilder's conservatory, Hawthorn place, Dorchester, this spring, which he had recently imported at great expense, the variety *alba*, said to have pure white flowers. The variety *papaveraceæ* has large single white flowers, with rich purple centre, at least six inches in diameter; *moutan* and *Banksiæ* have purple flowers very large and double. We had a plant of *P. moutan* with fifteen or twenty flowers upon it this spring, which stood exposed all winter: the flowers were nearly as fine as if it had been protected by the green-house. The beauty of the flowers is much longer preserved if they are screened from the mid-day sun, and sheltered from

heavy rains. The varieties *rosea* and *Anneslei* have pink flowers. All the varieties thrive in any rich light soil. "Ripened cuttings, slipped off and planted in the ground in a shady place, without cover, will root freely."

Pæonia albaflora is a species which contains, next to *moutan*, some of the most splendid; as *W. Whitleji* with double white, and *Humei* and *fragrans* with double red flowers, coming into bloom a week later than *P. officinalis*, the common double red pæony. The single varieties, *candida* and *tartarica* (flesh colored) *vestalis* and *sibirica* (white,) *rubescens*, (pink,) and *uniflora*, (red,) have single flowers, but are handsome border plants.

Pæonia officinalis. The double red pæony, forms one of the most common ornaments of almost every garden, and formerly highly prized, being, when introduced into Antwerp two hundred and fifty years ago, sold for twelve crowns: a large sum for those days.

"It is a native of Switzerland, Dauphine, and other parts of Europe, and also of China and Japan. The roots were formerly much used in medicine."

The varieties of this species are *P. rosea* with rose, *P. blanda* with blush, *P. rubra* with red, *P. carnescens* with flesh colored, and *P. albicans* with whitish flowers. *P. paradoxa* is a handsome species from Levant with purple flowers, having two or three varieties. *P. tenufolia* is much admired on account of its finely divided fennel-like leaves, and globular, single, deep red flowers. *P. hybrida*, *decora*, *Grevillii*, *corallina*, and many other species, are fine border plants.

All the species have fleshy, tuberous roots, and are readily propagated by parting, taking care to preserve a bud on the crown of each offset. This operation should be performed as soon as the foliage has decayed, about the last of August and in no case should it be deferred until spring.

Genus *Actæa. Polyandria monogynia. Character.* Calyx four leaved, petals four, berry one celled, many seeded, nearly flat. Actæa from a Greek word, the name of elder, which this plant resembles in foliage and fruit. The berries of *A. spicata* are poisonous, and with alum yields a black dye. The tubers of *A. racemosa* are called snake root, and much used in North America by self-practitioners, and as an antidote against the bite of the rattle snake.

A. rubra and *alba* are indigenous, found in moist woods producing spikes of handsome berries, and look well where introduced into the shrubbery.

Art. II.—*Visit to the Ankoy Tea Hills.*

In November, 1834, G. J. Gordon, Esq. accompanied by Mr Gutzlaff, visited the Ankoy Tea Hills, for the purpose of obtaining some additional facts relative to the cultivation and preparation of that plant. An account of this tour has been communicated by Mr Gordon, and published in the Journal of the Asiatic Society of Bengal. Two or three other gentlemen belonged to the party, with a company of armed Lascars and coolies. Of the countries through which they passed, Mr Gordon gives the following account:

"The country through which we passed, swarmed with inhabitants and exhibited the highest degree of cultivation, though it was only in a few spots that we saw any soil which would be deemed in Bengal tolerably good; rice, the sweet potato and sugar-cane, were the principal articles of culture. We had now to ascend a barren and rugged mountain, which seemed destined by nature to set the hand of man at defiance: yet even here, there was not a spot where a vegetable would take root, that was not occupied by at least a dwarf pine planted for the purpose of yielding fire-wood, and a kind of turpentine; and wherever a nook presented an opportunity of gaining a few square yards of level ground by terracing, no labor seems to have been spared to redeem such spots, for the purpose of rice cultivation."

Respecting the disposition of the people, he remarks:—

"At every village the people poured out as usual to see us, vieing with each other in marks of kindness. The day, however, becoming very hot, we took shelter from the sun under the roof of the boat, to the disappointment of many who waded into the water to gratify themselves with a sight of the strangers. Coming at last to a high bank close to a populous town, they actually offered the boatman 400 cash if he would bring us to; and on his refusal, the boys began pelting the boat with clods and stones. On this, Mr Gutzlaff went on deck to remonstrate, and Mr Ryder to intimidate with his gun. Betwixt both, the effect was instantaneous, and the seniors of the crowd apologized for the rude manner in which the boys had attempted to enforce the gratification of their curiosity. On the road, the villages poured forth their population as we moved along. At one place, they were actually overheard by Mr Gutzlaff thanking our guides for having conducted us by that road, and proposing to raise a subscription to reward them. At Koe-boe we learned that some petty officers

had been inquiring after us, which frightened our guides, and made us desirous to hasten our return."

The following is Mr Gordon's account of the tea plant, as it appears in the field:

"We accordingly got up at day break, and proceeded to visit the spot where the plants were cultivated. We were much struck with the variety of the appearance of the plants; some of the shrubs scarcely rose to the height of a cubit above the ground, and they were so bushy that the hand could not be thrust below the branches.—They were also very thickly covered with leaves, but these were very small, scarcely above three fourths of an inch long. In the same bed were other plants with stems four feet high, far less branchy, and with leaves from one and a half to two inches in length. The produce of great and small was said to be equal. The distance from centre to centre of the plants was about four and a half feet, and the plants seemed to average about two feet in diameter.

"Though the ground was not terraced, it was formed into beds that were partly levelled. These were perfectly well dressed as in garden cultivation, and each little plantation was surrounded by a low stone fence and a trench. There was no shade, but the places selected for the cultivation were generally in the hollows of hills, where there was a good deal of shelter on two sides, and the slope comparatively easy. I should reckon the site of the highest plantations we visited to be about seven hundred feet above the plain, but those we saw at half that height, and even less, appeared more thriving, probably from having better soil, though the best is little more than mere sand. I have taken specimens from three or four gardens. Contrary to what we had been told the preceding night, I found that each garden had its little nursery, where the plants were growing to the height of four or five inches, as closely set as they could stand: from which I conceive that the plant requires absolutely a free soil, not wet and clayey, but of a texture that will retain moisture; and the best site is one not so low as that which water is apt to spring from the sides of a hill, nor so high as to be exposed to the violence of stormy weather.—There is no use in attempting to cultivate the plant on an easterly exposure, though it is sufficiently hardy to bear almost any degree of dry cold."

Another expedition to the Bohea or Wooe Hills by the same party, was defeated in consequence of the jealousy of the Chinese government. It was their intention to have penetrated two hundred miles

into the country and have spent a month there. But having ascended the Min river for seventy miles, through a delightful country, and having passed through one large city and many populous villages on its banks, they were fired upon by the military and compelled to return.—*Missionary Herald, Vol.* 32, *No.* 2.

[From Paxton's Magazine of Botany.]

Art. III.—*Observations on the different species of Hardy, Deciduous and Evergreen Shrubs.*

Æsculus.

Æ. discolor, Æ. carnea, Æ. rubicunda, and *Æ. pavia* are all handsome. They all readily unite if grafted on the common kind, and in shrubberies make a beautiful show when in flower in spring. They flourish in any soil and situation. No plants are better calculated for shrubberies, for although they are deciduous, the variation in foliage from the ordinary shrubs has a charming effect. The Æ. discolor seldom grows above six feet high, and therefore will stand pretty forward; Æ. carnea, from sixteen to twenty feet; Æ. rubicunda from ten to twelve, and the Æ. pavia from six to eight feet: the knowledge of their relative heights will determine their situations in the shrubbery.

Azalea.

Azalea nudiflora, with all its varieties, particularly *Nudiflora thyrsiflora,* and indeed all the kinds are ornamental. All the hardy species grow from four to six feet high; and they should be planted on a border by themselves, composed of sandy peat, (heath mould) and are propagated by layers and cuttings.

Amelanchier.

A. sanguinea or scarlet-wooded *Amelanchier,* bears a strong resemblance to the *Snowy Mespilus,* and is very ornamental; it is deciduous, and seldom grows above four feet—it is a native of North America. *A. florida.*—This species bears a good deal of resemblance to the *sanguinea,* except in the racemes of flowers which are produced after the manner of the bird-cherry. It is also a native of North America. Both the species will require a light sandy soil,

and about the same situation in the shrubbery, and are readily propagated by layers.

Andromeda.

A. speciosa, and all its varieties are very beautiful ; they are natives of N. America and flower in great profusion, and continue in leaf nearly the whole year, although they are not strictly evergreen shrubs ; they grow about three feet high, and should be planted on the peat border with the *Azaleas*. *A. buxifolia*, *racemosa*, &c. are well deserving a place in the flower garden ; they are all propagated by seeds and cuttings.

Benthamia.

B. fragiffera. This beautiful new shrub is an evergreen, and flowers in profusion during June, July and August, and produces a large crop of large red mulberry-like fruit in the autumn ; it was introduced a few years ago from the East Indies. Our plants grow freely in common light soil, and no doubt but they will be increased by layers and seeds.

Catalpa.

C. syringifolia. This handsome flowering shrub is deserving a place in every shrubbery ; it was introduced by Catesby, who found it in the vicinity of the Ohio and Mississippi. If planted in a warm sheltered place it will flower finely when it has become ten or twelve feet, although the ordinary height it reaches is twenty feet. Common garden soil suits it very well, but if made a little rich it grows more luxuriant. The usual way of propagation is by the cuttings of the roots planted under a hand-glass, or by seeds, which may be bought at most of the seed shops.

Chionanthus.

C. Virginica, or Fringe tree, is a fine large deciduous tree, growing twenty feet or more high ; the leaves are broad like those of the *Magnolia grandiflora*. It is a native of N. America, where it was found growing upon the mountains, and is very hardy. A light loam suits it well ; but propagation is difficult ; budding and grafting on the common ash tree is the usual mode practised. The seeds are a long time before they vegetate after being sown, sometimes more than two years.

Chimonanthus.

C. fragrans. This species, together with *grandiflorus* and *luteus*, are most usually considered to be green-house plants, as during the

winter their delightful fragrance and lively flowers greatly enliven the appearance of a collection. They, however, grow very freely out of doors on a warm border, or under the wall of a stove or greenhouse. They are natives of China, and grow to six or eight feet high in favorable situations. Any light soil will do for them to be planted in out of doors, but if cultivated in pots use about equal parts of sandy loam and heath mould (peat). The mode of propagation is by layers, which merely require pegging down without any tongue; this should be done in the spring, just when the plants begin to grow. — They may also be increased by cuttings of the young wood, which should be planted in sand, and be covered with a bell glass, and the pots plunged in a gentle heat.

Calycanthus.

All this genus are natives of North America; they are very easy of culture, growing freely either in peat or loam, or both mixed. The flowers are a dark brown color, and very fragrant, resembling the odor of ripe melons. The usual mode of propagation is by layers, which strike soonest if they are tongued and laid down in sandy peat. They will also grow from cuttings, but not very freely if planted under a hand-glass in spring under a north wall.

Cotoneaster.

C. frigida. A low, handsome deciduous tree, a native of Nepal, where it was discovered some years ago by Dr Wallich. It bears a profusion of white blossoms in spring, and is covered with bunches of red berries in the autumn. *C. microphylla* is a very different species from *frigida*, being an evergreen shrub, seldom exceeding a foot in height, and bearing solitary white flowers. The foliage is glossy and very handsome. It is a native of Nepal. *C. laxiflora.* — This is a low deciduous shrub, inferior in beauty to the other two, but possessing many good qualities to recommend it. This and the first are propagated by layers and seeds, and will grow in any common soil. The *microphylla* may be propagated by cuttings planted under a hand-glass in peat earth on a warm but shady border in August, and they will be ready to pot off the following May.

Cratægus.

To stand as single trees, or to be incorporated with others in a shrubbery, perhaps *C. heterophylla, oxyacantha, punicea oxyacantha superba* and *coccinea*, yield in beauty to scarcely any plant, particu-

larly during the month of May, when their leaves are literally hid from sight by a profusion of crimson scarlet or white flowers, and in the autumn, when they are covered by red berries. They will grow in any soil and situation, and are readily increased by grafting on stocks of the quince and common thorn by layers and by seeds.

Colutea.

C. Nepalensis and *Pocockii* are very ornamental when planted near the front of the shrubbery; they flower freely, and will grow in nearly any soil or situation, and are readily increased by seeds, which ripen in abundance.

Cytisus.

These are so well known that little need be said about them. The *C. purpureas* and *nigricans* are pretty ornaments on the flower borders, where, trained to a stake, they grow from three to four feet high. They also look very pretty grafted upon the laburnum stock, but being feeble growers the stock soon destroys them; the *falcata*, no doubt, would answer this way. They are readily increased by layers and seeds, which ripen freely,—also by cuttings.

Deutzia.

D. scabra. This is a native of Japan, where it is found growing upon the Fakon Mountains. It forms quite a small shrub of slender growth, and may be propagated by cuttings planted under a hand-glass on a warm shady border. It will grow in any common garden soil.

Edwardsia.

E. grandiflora. This is a native of New Zealand, and is nearly hardy; if planted on a warm border or under a wall, and sheltered with a mat in severe weather in winter, it will flower very freely, and produce plenty of seeds, by which and cuttings it may be increased. The cuttings should be planted in pots of sand, covered with a bell glass, and placed in a gentle heat. The seeds may be sown in a slight hot-bed, transplanted when large enough, and afterwards exposed by degrees.

Ebenus.

E. creticas. A small evergreen shrub of considerable beauty; seldom grows more than a foot and a half high; looks very pretty on the flower border or rock work. It is a native of Candia, whence it was introduced a few years ago. It produces seed freely, and strikes

freely from cuttings, planted in a light soil under a hand glass on a warm border.

Enkianthus.

These are elegant little bushes, belonging to *Ericeæ*, generally considered green-house plants; but they are more hardy than most plants requiring that shelter. They do not bear the cold of our winters out of doors well, but only require sheltering in a frame or pit if in pots, and the shelter of a mat in open borders. The best soil for their growth is sandy loam and peat (heath mould) and care is requisite not to overwater them when not in a growing state. They are propagated by cuttings, which strike without difficulty. The cuttings must be taken when the wood is ripened, and be planted in sand under a hand glass without heat.

Gaultheria.

G. shallon. This new and very pretty evergreen shrub, is a native of North America, from whence it was brought to this country by Mr David Douglass.

Halesia.

H. tetraptera. A native of Carolina, where it was found growing on the banks of rivers. It grows very well in a light rich loam, but is very difficult to propagate; the best way is by seeds, which are imported from its native country. It may also be increased by cuttings of the roots, planted under a hand glass without heat.

Indigofera.

I. violacea. A dwarf slender shrub, very handsome when in flower but not very hardy, it should therefore be planted in a warm situation. It will thrive in any common garden soil, and increases by cuttings planted in pots of light soil, or sand, covered with a glass in a gentle heat. It also occasionally produces pods of seeds, which should be sown in a gentle hot bed in March.

Lonicera.

All the species of this genus, as now constituted, are upright shrubs, the climbing kinds being referred to *Caprifolium*. *L. tartarica* and its variety *rubra*, form beautiful shrubs, ten feet or more high, being clothed in April and May with flowers from top to bottom. They are perfectly hardy, and thrive in almost any soil and situation. They are natives of Russia, and are propagated easily by cuttings, layers and seeds.

Magnolia.

The whole of the trees in this are highly ornamental, and very valuable. All the American species and varieties are hardy, but those from China require the shelter of the green-house.

M. grandiflora is a splendid evergreen tree, rising, in its native country to sixty feet or more high, but with us scarcely exceeding thirty or forty feet. The leaves grow from eight inches to one foot long, in form not unlike those of the common laurel; the flowers are white, of a large size, and emit a pleasant fragrance. The plant is not so hardy as some other species, and should, therefore, be planted in a warm situation. We have a plant growing exceeding fine, trained against a south wall. All the varieties belonging to this species, as *elliptica*, *crispa*, *lanceolata*, *obovata*, *rotundifolia*, &c., require similar treatment.

M. glauca. This is also a native of N. America, where it is found growing in low, wet, swampy ground; it is deciduous, and grows to about twenty feet high. The flowers are cream color, bordering on light yellow. In America the tree is best known by the name of "*White* or *Swamp Laurel.*" The blossoms are delightfully fragrant, and a recent traveller states that on the windward side the scent may be distinguished for some miles before reaching the tree. All the varieties of this species are found in similar situations. The *M. glauca* is very hardy, and may be planted in almost any conspicuous situation, where it will not be exposed to the violence of the cutting winds.

M. macrophylla. This species is found in similar situations to the last, but to thrive requires more shade. The leaves are very large, measuring, on a healthful growing plant, nearly three feet long and a foot broad. The flowers, too, are very large, being a foot across when fully expanded. They are of a delicate cream colored white, tinged with deep purple at the base of the petals. They also emit a pleasing fragrance.

From the above remarks we learn that *M. glauca* and its varieties may always be planted in situations more exposed and moist than will suit the varieties of *M. grandiflora* and *macrophylla*, which, in their native country are sheltered from cold by the extensive forests in which they grow. The best kind of soil for all the hardy species of magnolia is peat; but, if all other circumstances agree, they will thrive exceedingly well in light loam, or a mixture of that and peat.

There are two ways of propagation practised, viz. by layers and

by seeds. The usual way, and probably the best way of increasing them is by layers, which should be tongued on the upper side, and layered down in March or April, and most likely by the autumn they will be ready to separate; if, however, they have not made good roots it is advisable to allow them to remain where they are until the following spring.

When the layers are separated, pot them in fortyeight sized pots, filled with a mixture of sandy loam and peat, or peat alone, place them in a frame, and keep them close shut down until they begin to grow; then gradually admit air, and treat the layers like green-house plants, potting as they require it until they are established, and have grown to a good size; then plant them in suitable situations, and they will speedily show flower.

The seeds imported from America should be sown immediately on their arrival, in pots or pans filled with light sandy loam or peat, or peat alone, covering the seeds very lightly. Place the pots in gentle heat, and they will soon begin to vegetate. When they are of sufficient size, plant them out in sixty sized pots, one plant in each pot; replace in the frame, and shade them until they have begun to grow.

When they have become established, take them out of the frame, and treat them while small in every respect like green-house plants; when they have grown to a good size, plant them finally in the situations where they are to stand permanently.

Malachodendron.

M. ovata. This beautiful tree is a native of North America, where it is found growing on mountains. The flowers are cream-colored and of a large size. It is hardy, but requires a warm and sheltered situation, otherwise the unripe wood is often killed in winter, and this causes the plant to flower weakly. A mixture of loam and peat is the best kind of soil for it; and it may be increased both by layings and cuttings. Let the cuttings be made of the ripe wood, and planted in autumn on a warm border under a hand glass in sand; or they strike quicker if introduced into a gentle heat. The best time for pegging down the layers is early in spring; they strike in less time if they be tongued on the upper side, and the branch slightly twisted.

Philadelphus.

P. grandiflorus. This is the handsomest of the genus: it is a native of North America, where it is found growing on the banks of rivers. It is perfectly hardy, and will grow in almost any soil and sit-

uation, forming a spreading shrub about six feet or more high, and is easily propagated by layers.

P. hirsutus. This shrub grows from four to five feet high; like the last, it is a native of North America, where it was discovered by Mr Nuttall. It thrives in the shrubbery in any common garden soil, and is propagated like the last.

P. coronarius, or Common Syringa, greatly resembles the other, grows about five feet high, and is delightfully fragrant when in bloom. It may be propagated like the last.

Prunus.

P. candicans. This is a delightful hardy deciduous shrub, growing about six or eight feet high. It is very easy of cultivation, and in May and June, when in full flower, is a perfect picture, the white flowers nearly hiding the young leaves, which are beginning at that time to cover the branches. It may either be propagated by layers, or by budding and grafting on the common plum stock.

P. Sibirica scarcely grows so large as the *candicans*, thrives well in almost any soil and situation, and makes a pretty ornament when in flower. It may be increased both by layers and budding, or grafting on a common plum stock.

Pyrus.

P. coronaria. This beautiful crab tree is a native of North America; it grows upwards of twenty feet high; in May, when it flowers, a delightful fragrance is emitted, which in the evening perfumes the whole of that part of the garden. It will grow in almost any low situation; and may be propagated by grafting on other crab stocks, or by layers. Deciduous.

P. floribunda. This forms a broad spreading but not very lofty bush, which in spring is thickly covered with blossoms, and in autumn with purple berries. It grows freely in common garden soil and may be propagated by the same means as *coronaria.* Deciduous.

P. spuria. A small deciduous shrub, very hardy and easy of propagation; grafted upon the common stock or crab or pear stocks it grows very freely.

P. angustifolia. This very pretty shrub rarely loses all its leaves; for although not an evergreen, the leaves of the previous year seldom fall until new ones are produced. It resembles in size *P. coronaria,* seldom growing above eight feet high. It is propagated by grafting on the crab stock and by layers.

P. spectabile is a native of China, and should be planted in a warm situation. Any light soil will suit it. Propagation is the same as the other species.

P. grandiflora. This is a handsome shrub, rarely exceeding six feet. It will grow in any soil and situation, and propagated the same as the other species.

Rhododendron.

Rhododendrons are easy of culture, merely requiring to be planted in situations rather shaded and damp, and the soil to be sandy peat, (heath mould,) or peat and loam mixed. They are propagated by layers, by cuttings, by separating the plant at the roots and by seeds.

R. cinnamomeum is a splendid plant, growing to the height of twenty or thirty feet, and spreading wide in proportion. The situation in which it is planted must be well sheltered from cold winds, and have a little morning sun, and there will be little doubt of its thriving.

R. azaleoides and its variety *odoratum* are low bushes, seldom exceeding four feet: they are more hardy than the last, and thrive well on a north border.

R. Caucasicum and its two varieties usually grow from two to three feet high; but rarely exceed two, except in very favorable situations; they are very beautiful, and require only ordinary care to bring them to perfection.

R. campanulatum is rather tender, and should be treated like *cinnamomeum.* It is a native of Nepal, where it grows upon the mountains.

R. cartoni, purpureum, maximum, ponticum, hybridum and *myrtifolium,* are nearly all alike hardy and require the same treatment, both as respects situation and other particulars.

R. nudiflora exima is a hybrid of great beauty, raised by Mr Smith, between the *Azeala nudiflora coccinea* and *Rhododendron arboreum;* it will prove, no doubt, a beautiful addition to the flower border.

R. arboreum venustum. This beautiful little variety grows about eight inches high. It is a hybrid raised by Mr Smith from seeds of *R. Caucasicum,* fertilized by *arboreum.*

R. lapponicum is a beautiful low spreading shrub, scarcely exceeding six inches in height; it has been long known and deservedly cultivated in the gardens, being a great ornament in front of the American border, flowering with the greatest freedom.

Propagation of Rhododendron by layers.—When the plants are in full growth, merely peg down the young shoots, without any inci-

sion, and cover them with about two inches of soil, and by the following spring they will be ready to separate.

Cuttings of half ripened wood planted under a hand glass in September, on a north border, in peat earth, will often strike and make good plants, but layers are preferable.

Separating the plant at the roots. This is merely tearing off or separating with a sharp knife, those branches with roots attached to them, which is the case when many branching stems spring from the same root.

By seed. Sow the seed on a bed of peat soil (heath mould) if there is a considerable quantity, but if only a small portion, sow in a pan or box because of the ease with which the latter can be protected by placing it in a frame. If sown on a bed, shelter the plants while young from heavy rains, &c. by mats or hoops. Transplant, when large enough, into other beds, or into pots, and continue to shift them every two years, till they are large enough to plant into their permanent situations.

Ribes.

"It is well known that of *Ribes*, the genus to which the gooseberry and currant belong, many species, indigenous to both northern and southern America, do, in their native soil, produce excellent fruit, while the same species, when transported to an English climate, seldom bear any, or, when they do, the flavor is either almost insipid, or in no small degree astringent. A few exceptions however occur.

"Among the numerous species introduced within these few years, and chiefly natives of America, few possess greater claims to our attention as ornamental shrubs, than the *R. sanguinea.* This plant in its natural state produces abundance of fruit, but of so musky and unpleasant flavor, that the berries continue to hang on the bushes throughout the winter, even the birds refusing to make them a part of their food. It can hardly be expected to improve materially by culture; certainly never to such a degree as may entitle it to the rank of an edible fruit; but it possesses considerable recommendations of another kind. Whether we consider the delicate tint of its blossoms, which appear in March and April, the elegance of its foliage, the facility with which it is increased and cultivated, or its capability of enduring the severest of our winters without the least protection, it may be regarded as one of the finest and most interesting additions that have been made to our shrubberies for many years."

R. speciosa. This belongs to the gooseberry division of *Ribes*, and

though inferior in beauty to the *R. sanguinea*, it certainly is very handsome. The flowers are a bright crimson, far superior in brilliancy to those of *R. sanguinea;* they are pendant, and resemble in form those of *Fuchsia.* The plant, however, does not make as conspicuous appearance on the border as *sanguinea*, because its flowers are not so numerous, and are partially hid among the leaves. Our plants appear very hardy, are easily cultivated, and may be propagated by cuttings. Any light soil appears to suit them.

R. fragrans. This also is a native of North America. The flowers bear a resemblance to those of *R. aureum* (to which, if not the same plant, it is very nearly related.) They are rather showy, and delightfully fragrant. The plant grows freely in almost any soil, and is readily increased by layers and cuttings.

Syringa.

This genus is remarkably well known. The varieties of *S. vulgaris* are well calculated to plant back in large shrubberies, and the *Persica*, *Chinensis* and *Josikœa*, for small clumps. They are all increased by layers and suckers from the roots.

Spiræa.

S. grandiflora is a native of Kamtschatka, is perfectly hardy, will flourish in any light loam, and is easily propagated by layers and cuttings. *S. trilobata* and *chamædrifolia* also require precisely the same treatment as *grandiflora.*

Symphoria.

S. racemosa. This is a pretty little deciduous shrub, a native of North America. It will thrive if planted under the shade of other trees, in any light soil, and may be easily increased by cuttings planted under a wall in early spring.

Besides such as are mentioned in the above list, we may name white and red cedars, common and Portugal laurels, arborvitæs, hollies, berberries, sweet bays, lauristinas, and roses, both deciduous and evergreen for the borders; also, standard roses and robinias, for the grass lawn, than which, perhaps nothing has a more graceful appearance ; cypress and plane trees to plant near old ruins, and many other plants which are too common to need enumerating here.

Art. IV.—*Northern Exposure to Trees; Tarring Trees injurious.* Communicated by Mr Joseph Harrington.

Roxbury, July 22, 1836.

Thos. G. Fessenden, Esq.

Dear Sir — My own garden is an inclined plane, facing, as we may say, to the North West. I have found from observation during five successive years that vegetables on land of a southerly aspect, have been affected by frost, when those of the same kind in my garden, were untouched. If the fact be true, I would ask, what philosophical principle must be summoned to give an explanation.*

I would state a fact, showing, as I suppose the effect of Tar upon fruit trees — my neighbor and I own two adjoining orchards; the canker worms have visited them, without mercy for eight successive years; my neighbor tarred his trees in the usual way, — mine were many of them large, and taking into the account the expense and trouble and chance of injury from the tar itself, I suffered the insidi-

* *By the Editor.* The following remarks originally appeared in the Hampshire Gazette. President Dwight, in his "Travels in New England," &c. says: The common opinion that tender plants and fruit trees ought to be placed in a warm southern exposure to preserve them from frosts is erroneous. He adduces many facts to prove that fruit trees should be planted on northwestern, northern or western declivities, where they may be exposed to the northwestern, northern or western winds. A white frost being merely frozen dew, the next object should be to keep the dew from resting on the plants. This can be effectually done, only by exposing them to the free access of the northwestern winds, the source of almost every white frost. Plants from which the dew is swept away by this wind will escape; while those, which, by being sheltered from its current, retain the dew, will be destroyed. Major White, of South Hadley, had an orchard, on the northwestern declivity of a hill, exposed to the strong winds that blow through the gap of Mount Tom and Mount Holyoke. These winds swept the dew from this orchard so effectually, that its blossoms regularly escaped the injuries of such late frosts in the spring as destroyed those of the surrounding country. The inhabitants of South Hadley styled such a frost *Major White's Harvest*, because, in such years, his cider commanded a very high price. A Mr Lyman informed President Dwight that in his garden, which was exposed to the northwest winds the white frosts had never done any injury to the vegetables.—*See N. E. Farmer, vol. V., page* 348.

Another advantage in a northern exposure is obtained by its keeping vegetation back till late in the spriug. If vegetation commences early, subsequent frosts congeal the sap in its pores, and kill the young plant by bursting or tearing its fibres; as a glass or earthen vessel is broken by water's being frozen in it.—*See N. E. Farmer, vol. V., page* 260.

ous invaders to range unmolested. The last season, the worms were few, compared with preceding years, and many trees were permitted to produce as they were wont. My neighbor's trees, abreast of mine, of the same age and kind bore but sparingly, while mine produced in great abundance — the tar must have been the cause.† This matter is, no doubt, well understood, but as it came under my own eye, I pass it to you; it may not be useful to publish.

Yours, truly, JOSEPH HARRINGTON.

(From Chaptal's Chemistry.)

ART. V.—*On the Preservation of the Fruits of the Earth by Drying.*

IN all vegetable products, water exists in two different states, one part of it being found free, and the other in a state of true combination; the first portion, not being confined except by the covering of the vegetable, evaporates at the temperature of the atmosphere; the second is set free only at a temperature sufficiently high to decompose the substances containing it: the first, though foreign to the composition of the vegetable, enters into every part of it, dissolving some of its principles, serving as a vehicle for air and heat, and being converted by cold into ice; by these several properties it greatly facilitates decomposition: the second portion, from which no evil of the kind arises, is found combined and solidified in the plants, and its action is thus neutralized. Drying, then, consists in depriving the

†The following process has been recommended for defending trees against canker-worms — *A strip of linen or canvass* is put round the body of the tree, before the females begin their ascent, and well smeared with tar, &c.—*See American Gardener, art. Insects.* A gentleman informs us that in Plymouth, Mass. they make use of the following mixture as a substitute for tar, in preserving fruit trees against cankerworms, viz: white varnish, soft soap and whale oil, one third of each, to be mixed and applied at the times and manner of the usual application of tar for the same purpose. The advantages of the mixture, we understand, are that it is not so soon hardened by the weather, and of course need not be so often applied, and does not in the least injure the trees to which the application is made.

product to be preserved of the water contained in it in a free state, by heat; and from what has been observed, it follows, that too great a degree of heat must not be applied, as, in consequence, the taste and the organization of the substance would be changed by a commencement of the decomposition of its constituent principles: the temperature should never be higher than from 35° to 45° of the centigrade. (= from 95° to 112° Fahrenheit.)

Drying can be performed either by the heat of the sun or in stove rooms. In the southern climates the heat of the sun is sufficiently powerful to dry the greater part of the fruits, and thus to preserve them unaltered: the drying is effected by exposing them to the rays of the sun upon hurdles or slates, where they will be protected from rain, dust, and injury from animals. Practice alone is sufficient to enable one to judge of the degree, to which each kind of fruit must be dried in order to its preservation.

When the outer skin or rind of the fruit is of a kind to prevent the water from passing off freely, incisions are made in the rind to facilitate its evaporation. In this manner are prepared most of the dried fruits, which form so considerable an article of commerce between the south and north.

Those fruits which contain much sugar, as prunes, figs, musk grapes &c. may be prepared in the above manner, and preserve nearly all their qualities, but the acid fruits acquire a disagreeable sharp taste by the concentration of the juices; some of them, however, may be kept advantageously in this way.

In the hottest countries the process of drying is often commenced by subjecting the fruits to the heat of an oven, after which they are exposed to the sun; some kinds of fruits are thrown into a weak ley, till their surface becomes wrinkled, when they are taken out, carefully washed in cold water, and afterwards dried in the sun: cherries particularly are treated in this manner. When the heat of the sun is not sufficiently great to evaporate all the water contained in the pulp of large, fleshy fruit, they may be cut in pieces and then dried; in this manner apples and pears are prepared for keeping.

But this method is neither speedy nor economical enough for such preparations as have but little value in commerce, and which can never supply, for domestic purposes, the place of those whole fruits, which may be easily preserved from one season to another: it is therefore customary to perform the drying either in stove rooms or ovens. In the first case, the fruits, after being cut, are placed upon

hurdles arranged in rows in a chamber heated to 112°: in the second the fruits are put into an oven, from which bread has just been drawn: this is repeated if the fruits be not sufficiently dried the first time.

Some of the fruits referred to above, may be dried without being cut: of this kind are the tender pears, which cannot be preserved fresh through the winter; such as the rousselet, the butter pear, the doyenné, the messire-jean, the martinsec, &c. These are first peeled and then thrown into boiling water, after which they are put upon hurdles into an oven heated less than is required for bread: after an interval of three or four days the pears are again exposed to the same degree of heat, having been however first flattened between the palms of the hands; whence they have acquired the name of *pressed pears.*

Fruits prepared in either of the above ways are susceptible of fermentation upon being soaked in water, and they thus serve to make a cheap and useful drink.

In those countries where these fruits abound, the drying of them is commenced about the first of August, and those are made use of, which then fall from the trees; in autumn, when the harvest is gathered in, the soundest and finest fruits are carefully selected to be used fresh, whilst the rest are dried and preserved in a place free from moisture, to be employed in making drinks.

The herbage, which serves as food for domestic animals, can be preserved only by drying, and this in all countries is practised at the time of cutting. Fodder, which is imprudently stacked up whilst still damp, ferments, and the heat thus produced is sufficient to change the quality, produce mouldiness, and is sometimes even great enough to set the whole on fire.

There are some fruits, which may, by a few slight precautions, be preserved throughout the year. The first of these precautions is, that of depriving their surface of all moisture before putting them up; and the second consists in keeping them in dry places, where the temperature will constantly be between 50° and 54° Fahrenheit; the third, in separating the fruits, so that they shall not come in contact; I have seen apples preserved in this manner eighteen months. It is necessary to be particular in selecting fruit for preservation; that only should be taken which is perfectly sound.

Wood and other portions of vegetables, and various animal substances are likewise preserved by drying; this process increases their hardness and renders them less accessible to the action of air, insects, and other destructive agents.

The process of drying is not confined to preserving fruits from decomposition : it furnishes the means of securing their juices unaltered for the formation of extracts of them.

When the juices of plants can be extracted by pressure alone, it is only necessary to evaporate these juices at a due degree of heat and in suitable vessels, till, being deprived of all the water which retained them in a liquid state, they are reduced to dryness. Evaporation, if continued for a long time at the temperature of boiling water, changes these juices a little ; the albumen, which is contained more or less abundantly in all sweet fruits, is coagulated, and after this they are no longer susceptible of undergoing the vinous fermentation.

The must of grapes, operated upon in this manner, furnishes an extract called *raisiné*, which is an article of food both wholesome and agreeable, and which, when soaked in water, decays without producing alcohol. The fermentive power of this substance may however be restored by mixing with it a little of the yeast of beer, as this repairs the loss, which the juices had sustained by heat during evaporation.

All the juices obtained from sweet fruits may be converted into extracts and thus furnish agreeable food ; the quality of the extract varies according to the quantity of sugar contained in the fruit, and the care taken in the operation : when the juices are several times clarified, and evaporation carried on in a water bath, care being taken to stir the liquid to prevent its adhering to the sides, the color and taste of the extract or jelly obtained is far superior to that procured without employing these precautions.

The sweetest fruits, however, even the well ripened grapes of the south, contain a portion of acid, which when concentrated by evaporation, acts upon the copper boilers in which the operation is carried on, so as to form an acetate of copper : this by producing colics, would render the use of the extract dangerous, especially at the south, where the principal article of food for children is the *raisiné*. In order to obviate this serious evil, an ancient and generally followed custom is observed : as soon as the must of the grapes begins to boil in the coppers, a bunch of keys is thrown in, and allowed to remain till the operation is completed : these keys attract the copper and become covered with the precipitate thus formed, and nothing remains in the extract but the acetate of iron, which is not injurious.

I have observed that the juices of all succulent fruits might be converted into extracts, and thus preserved for use in the course of

the year; but the greater part of these juices, when concentrated by evaporation, are so excessively acid as to be totally unfit for food, and they only form, when mixed with water, a very sour drink. In order to correct or conceal this acidity, these juices are boiled with an equal weight of sugar and thus made into sirups and jellies.

As it is of importance to be able to extract and preserve for domestic purposes, for pharmacy, and for the arts, certain vegetable products which can be only very imperfectly obtained by mechanical pressure, recourse is had to other means; those liquids are made use of which will dissolve the wished for principles, and the solution is afterwards evaporatad to dryness.

The fluid most generally employed for solutions is water; this dissolves the extractive matter, mucilage, sugar, and the greater part of the salts, and mixes with the mealy portions of plants; it may be applied cold or hot to the vegetables, or they may be boiled in it, according to the nature of the principle to be extracted; water will dissolve all that is soluble in them, and the extracts may be obtained from the solution by evaporation.

The resins, which are found so abundantly in some vegetables, are not soluble by water, and the place of this liquid must be supplied by alcohol, in which the plant must be digested; evaporation will separate the alcohol from the resin which it holds in solution. In order to avoid the accidents that might occur from the dispersion in the atmosphere of a very inflammable vapor, the evaporation must be so conducted that the dissolvent may be received into an alembic or close vessel.

In addition to the methods of preserving fruits by drying, and by reducing their juices to the state of sirups and jellies by natural or artificial heat, M. de Montgolfin has applied the action of the air pump with great success. I have tasted juices prepared and thickened in this manner, and I thought they were much superior to those that had been evaporated in either of the modes hitherto usually practised. I do not doubt that, when this method becomes better known, it will be generally adopted.

Art. VI.—*Massachusetts Horticultural Society.*

EXHIBITION OF FLOWERS.

Saturday, July 11, 1836.

By E. A. Story, from the establishment of the Messrs. Winship of Brighton:—Achillea montana, Aconitum napellus, Anchusa paniculata, Asclepias vinicetexicum, Astrantia major, Allium moly, Campanula azurea, do. medium, do. medium pleno, lephylanthe new white Clematis, integrifolia, do. alpina, Coreopsis lanceolata, do. semifolia, do. verticillata, Centaurea purpurea, do. atro-purpurea, Delphinium elatum, do. grandiflorum, do. Chinense, do. urceolatum, do. azureum, Epilobium angustifolium, Digitalis purpurea and lutea minor, Lupinus polyphrytus, Ledum ochroleucum, Lychnis chalcedonica, do. pleno, Lysimachia ephemerum, do. verticillata, do. stricta, Lythrum salicaria, Œnothera frazerii, Orobus niger, Phlox carnea, do. Carolina, Rudbeckia laciniata, Sambucus ebulus, Scutellaria galericalata, Spiræa ulmaria, do. lobuta, do. filipendula, do. sorbifolia, do. aruncus, do. trifoliata, Symphytum tuberosum, Thalictrum album, Tradescantia virginica, Verbascum lutea, do. var. purpurea, Veronica spicata, do. lutifolia, do. hybrida, do. teucrium, Pæonias whitleji and fragrans, German tamerisk and six varieties of Pentstemons, &c. &c.

By John A. Kenrick, of Newton. *Roses*,—two kinds of Moss climbing tea scented and several other varieties. Delphinium sinensis, do. elatum, Azalias, two varieties, Spiræa sorbifolia; Rhododendren maximum. *Dahlias*,—Stanhopia, Kalmia latifolia, Queen of Wurtemberg, Pæony fragrans, Humei, &c.

From Messrs Hovey. Seedling pinks, Veronica elegans, Digitalis lutea and purpurea, double white and scarlet Lychnis, Astrantia major, Spiræa ulmaria, Pentstemon diffusum, Gaillardia picta, Campanula trachelium pleno, Delphinium sinensis fl. pleno, Aconitum napellus, &c. &c.

From Col. M. P. Wilder, of Dorchester. A bouquet, containing Pentstemon digitalis, do. diffusus, Pæonia Humei. *Dahlias*,—King of Whites, Crimson Globe, Belladonna, Alstromeria psittacina, Geranium grandissima, do. Sesostris, Hibiscus rosa sinensis, &c. &c. Also, a variety of French Roses.

From J. Lee, Esq. of Brookline. Hardy climbing Tea Rose, Hieracium incarnatum, Calendonia grandiflora, do. speciosa, Gaillardia bicolor, Malva alba, Rhododendron maximum and Magnolia glauca.

Mr William Kenrick, of Newton, and Mr S. Sweetser, of Cambridgeport, each presented bouquets.

From Samuel Walker, of Roxbury. Ranunculuses var. Wirtemberg, Venus, Rubens, &c. &c.

The specimens of the tea scented hardy climbing rose exhibited by Mr Lee, and also by Mr John A. Kenrick, were very beautiful. One of the seedling pinks, by the Messrs Hovey, deserves a name and a place among *pretty things*. Col. Wilder's roses, were, as usual, very fine. Mr E. A. Story's specimens of Delphinium sinensis, Clematis alpina, Spiræa filipendula, Z. lobata did him credit; it would give us pleasure to see these plants more extensively cultivated.

For the Committee,

S. WALKER, *Chairman.*

SATURDAY, July 18.

By Messrs Hovey. Phlox roseum, do. carnea, Campanula trachelum fl. pleno, do. callina, do. Lorrejii, Astrantia major, Asclepias, Spiræa lobata; do. ulmaria; Delphinium sinensis, &c. &c.

By Mr Sweetser, of Cambridgeport. Agapanthus umbellatus, Lychnis chalcedonica, alba fl. pleno, Dahlias, King of the whites, do. William and Adelaide, &c. &c.

Robert Treat Paine, Esq. presented a specimen of one of the bulbs received from Baron von Ludwig; accident having deprived us of our minutes of this plant we are unable to give particulars.

By Mr William Kenrick, of Newton. Pæony fragrans, purple striped Lilies, &c. Purple Beech, &c. &c.

By Col. M. P. Wilder, of Dorchester. Erythrina cristo galli, Dahlias, Erecta, Angelina, Globe.

By Mr E. A. Story, from the Messrs Winship, of Brighton. Betonica grandiflora, Veronica hybrida, Achillea flore pleno, Thalictrum cornuti, Hemerocallis flava, Daturea arborea, Hoya carnosa, Crinum unifloro, Volkameria Japonica, Fuchsia striata, Passiflora alba, Lilium martagon.

By S. Walker, Roxbury. Pinks var. Hawkins' beauty, Seedling carnations, Viola, var. Roxbury belle, do. Village maid, Sednum atratum? Phlox, var. Young's seedling, very fine color and flowers large.

For the Committee,

S. WALKER, *Chairman.*

Art. VII.—*Gardener's Work for August.*

Be very diligent in keeping your crops free from weeds, using the hoe where most convenient, and in other cases let your thumb and fingers be employed. Pull up the haulm of peas, beans, &c. and remove it to your compost bed, bury it between rows of plants, or throw it to swine to be manufactured into manure. Your dunghills and compost heaps should, during the summer months, be kept free from weeds, for if the seeds are permitted to ripen and fall, the dung, when carried into the garden will disseminate weeds innumerable. This month as well as the latter part of July is the proper season for inoculating or budding. M'Mahon says: "Cherries, plums, or any other fruit trees may be budded in August, if the bark parts freely from the stock. Pears ought to be inoculated the early part of the month, or when the sap flows freely; but the peach, nectarine, almond and apple will succeed any time between the first of August and the twentieth of September, provided the stocks are young and vigorous."

Preserve peach, plum, cherry, and apricot stones, &c. to sow for raising stocks to bud and graft on. These may either be sowed immediately, or be kept in common garden earth, or moist sand. But it will be necessary to sow them before the stones open, and the varieties begin to shoot; otherwise, many of them will be broken or torn in sowing. Every day they are kept out of ground is an injury to them; and if they remain in a dry state till spring, very few will vegetate till a year after, and the greater number not at all. Continue to collect and preserve seeds as directed last month.

Cut such herbs as are now in flower, to distil, or to dry for winter's use. Cut them when they are dry, and spread them in a dry, shady place; for if they are dried in the sun, they will shrink, turn black, and prove of little value.

Destroy Wasps.—"Hang up glass phials filled with honey or sugar water, in different parts among the wall, espalier and standard fruit trees, in order to destroy wasps, ants, &c. which would otherwise infest and devour the choice fruits; by the sweetness of the water they are tempted into the phials, and frequently drowned; but these should be hung before the fruit begins to ripen, for then the insects would be much sooner tempted to the water, than after having tasted the fruit; where a sufficient number of glasses are placed in time, and properly attended to, and the water occasionally renewed, very little damage is done by these insects."—*M'Mahon.*

Art. VIII.—*Miscellaneous Matters.*

Nettles.—Every body knows that the leaves of stinging nettles are thick set with sharp prickles that penetrate the skin when touched and occasion pain, heat and swelling, which symptoms were imagined formerly to ensue from the prickles being left in the wounds they made. But the microscope discovers something much more wonderful in this common vegetable, and shows that its prickles are formed and act in the same manner as the stings of living animals. Every one of them is found to be a right hollow body, terminating in the most acute point possible, with an opening near its end. At the bottom of this cavity lies a minute vessel or bag, containing a limpid liquor, which, upon the least touching of the prickle is squirted through the little outlet, and if it enters the skin, produces the mischief before mentioned by the pungency of its salts. Hence it comes to pass, that when the leaves of nettles are considerably dried by the heat of the sun, they sting but very little; whereas such as are green and juicy produce pain and inflammation.

American Vine.—The expedition to the Rocky Mountains found on the borders of the Arkansas, near the eastern side of the great desert, hundreds of acres of the same kind of vine *(vitis vinifera)* which produces the wines of Europe. These vines were growing in a wild state and were surrounded with hillocks of sand, rising to within 12 or 18 inches of the end of the branches. They were loaded with the most delicious grapes, and the clusters were so closely arranged as to conceal every part of the stem. These hillocks of sand are produced by the agency of the vines, arresting the sand as it is borne along by the wind.

Lightning Rods.—Professor Fansher of Yale College, says:—"In a dry atmosphere its influence extends to from 30 to 40 feet. In a damp do. from 20 to 25 feet. When it rains profusely, from 15 to 20 feet. From this statement it will be obvious that conductors should always be erected with reference to the most watery state of the atmosphere.

Garlick.—A writer in a Philadelphia paper states that when the *fall fever* raged violently in the neighborhood of a canal then in a state of progress, numbers of the workmen engaged on it eat plenti-

fully of garlick, and wholly escaped, while those who abstained from the use of this article were severely afflicted by the disorder.

The Bee Miller.—The following method of destroying a very pernicious insect has been recommended and is at least worth the trial. To a pint of sweetened water (sweetened with sugar or honey) add half a gill of vinegar; set this in an open vessel on the top of the hive, and at night, when the miller comes to his work of destruction he will prefer this composition and, diving into it, immediately drown.

Improvement in Vegetables.—There is scarcely a vegetable which we at present employ that can be found growing naturally. Buffon states that our wheat is a factitious production, raised to its present condition by the art of Agriculture. Rice, rye, barley, or even oats are not to be found wild, that is to say, growing naturally in any part of the earth, but have been altered by the industry of mankind, from plants not now resembling them even in such a degree as to enable us to recognise the relations. The acid and disagreeable *acid graveolens* has been thus transformed into delicious celery; and the *colewort*, a plant of scanty leaves, not weighing altogether half an ounce, has been improved into cabbage, whose leaves alone weigh many pounds, or into a cauliflower of considerable dimensions, being only the embryo of a few buds, which, in the natural state, would not have weighed many grains. The potato again, whose introduction has added many millions to our population, derives its origin from a small bitter root which grows wild at Chili and at Montevideo. If any of my readers should be sceptical upon the subject of such metamorphoses, let them visit the fairy bowers of horticulture, and they will there perceive that her magic wand has not only converted the tough, coriacaceous covering of the almond into the soft and melting flesh of the peach, but that by her spells, the sour sloe has ripened into the delicious plum, and the austere crab of our woods into the golden pippin; and this, again, has been made to sport in almost endless variety, emulating in beauty of form and color, in exuberance of fertility, and in richness of flavor, the rarer productions of warmer regions and more propitious climes.—*Dr Paris on Diet.*

Preservation of Grapes.—In a cask or barrel, having its crevices well closed, to prevent access of the external air, place a layer of bran, which has been well dried in an oven; upon this place a layer of bunches of grapes well cleaned, and gathered in the afternoon of

a dry day, before they are perfectly ripe; proceed then with alternate layers of bran and grapes till the barrel is full, taking care that the grapes do not touch each other, and to let the last layer be of bran; then close the barrel so that the air may not be able to penetrate.—Grapes thus packed will keep for a twelvemonth. To restore their freshness, cut the end of each bunch, and put that of white grapes into white wine, and that of black grapes into red wine, as flowers are put into water to keep them fresh.

To improve dried Figs.—These fruits, when they are brought to table, are commonly covered with a scurf, composed of a mealy, sugary substance, very disagreeable to the teeth. The way to get rid of the scurf, and render the figs as plump and clear skinned as when they are newly gathered from the tree, is, first to keep them in a cool and rather moist cellar for twentyfour hours before using; and secondly, just before presenting them at table, to put them into a receiver, and exhaust the air. After remaining there two minutes, they should be taken out and gently brushed, when they will be found perfectly plump and clear skinned.

Preserving Strawberries.—Weigh the strawberries after you have picked off the stems. To each pound of fruit allow a pound of loaf sugar which must be powdered. Strew half of the sugar over the strawberries, and let them stand in a cold place two or three hours. Then put them in a preserving kettle over a slow fire, and by degrees strew on the rest of the sugar. Boil them fifteen or twenty minutes, and skim them well.

Put them in wide mouthed bottles, and when cold, seal the corks.

If you wish to do them whole, take them carefully out of the sirup one at a time, while boiling. Spread them to cool on large dishes, not letting the strawberries touch each other, and when cool, return them to the syrup, and boil them a little longer. Repeat this several times.

Keep the bottles in dry sand, in a place that is cool and not damp.

Gooseberries, currants, raspberries, cherries and grapes may be done in the same manner. The stones must be taken from the cherries, which should be morellas, or the largest and best red cherries, — and the seeds should be extracted from the grapes with the sharp point of a penknife. Gooseberries, grapes and cherries require longer boiling than strawberries, raspberries, or currants.

Raspberry Jam.—Allow a pound of sugar to a pound of fruit.—Mash the raspberries and put them with the sugar into your preserving kettle. Boil it slowly for an hour, skimming it well. Tie it up with brandy paper. All jams are made in the same manner.

Preventive against moths.—Calamue, or sweet flag root cut in thin slices and scattered among woollens of any kind will effectually repel the assault of this destructive insect.

Selection of Plums.—To those persons who feel lost in the labyrinth of a modern catalogue of fruits, the following selection of plums, of first rate excellence, for a small gardeu, may not be unacceptable.

Yellow Fruited.	*Green Fruited.*
Washington,	Green Gage,
Coe's Golden drop,	Imperial do.
Drap d'or,	Flushing do.
Yellow Gage,	Luscomb's Nonsuch.

Blue or Purple Fruited.

Reine Claude Violette, or	Purple Gage,
Blue Imperatrice,	Nectarine,
Kirk's,	Red Gage.
Imperial Diadem,	

The Reine Claude Violette, or Purple Gage, is one of the most delicious of plums. The Blue Imperatrice is excellent, and keeps a long time after ripening. Coe's Garden Drop and the Washington are very large and luscious fruit; and the Nectarine and Kirk's plum are very beautiful, of large size, and fine flavored. The Azure Hative may, in addition to the above, be recommended as a very early variety, and the White Magnum Bonum, or egg plant, as being suitable for preserving.—*C. & A. J. Downing.*

Transplanting Evergreens.—The unfading verdure of the resinous trees forms a pleasant relief to the eye amid the desolate fields and snow-crowned hills of winter. These beautiful inmates of the northern forests, are peculiarly intractable to the skill of cultivation. The spruce and the fir, when removed from the cold and bleak solitudes where they best love to fix their roots and send up their tall pyramids of green, to a more genial situation, wither and perish. These beautiful and stately plants are desirable as the ornaments of the garden or the groves of cultivated scenery. The English books recommend that they be removed in the depth of winter with frozen masses of earth around their roots, to holes dug for their reception during the preceding autumn.